



# **AIS Viewer for Receiver**

## **CYPHO-101**

### **User Manual**

**Version 1.03**

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### I. COPYRIGHT & DISCLAIMER

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## 1. What is the AMEC AIS Viewer?

The AIS Viewer is a complementary charting software for the purchasing of AMEC AIS Receiver equipment. It operates mainly on Windows-based operating systems. User can use this software together with the AMEC class B AIS transponder to see the surrounding AIS traffics without connecting to a Chart Plotter device. However, the coastal map in AIS Viewer has limited details and the software itself should not be compared with a commercial ECS system. If user needs more complete functions, an advanced ECS or Chart Plotter device should be considered.

When connected to an AMEC AIS receiver, AIS Viewer can provide listing and tracking on boats, chart marker editing tools, various viewing modes, and recording and replaying of AIS logs.

The AIS Viewer is designed to work with AMEC AIS device, if user connects this AIS Viewer to non-AMEC AIS equipment, AMEC is not liable for any resulted incompatibilities.

If you have any questions or comments for this AIS Viewer software, you are welcome to contact us at [service@alltekmarine.com](mailto:service@alltekmarine.com).

### NOTICE



#### RELIABLE VHF RECEPTION

The AIS Viewer relies on the AIS messages received by the AIS device. Please ensure the AIS device has a good VHF reception for AIS messages.

## 2. System Requirement

The minimum system requirements are:

- Operating System: Windows XP or above.
- CPU: 1GHZ.
- Memory: 128MB.
- Hard drive space: 100 MB.

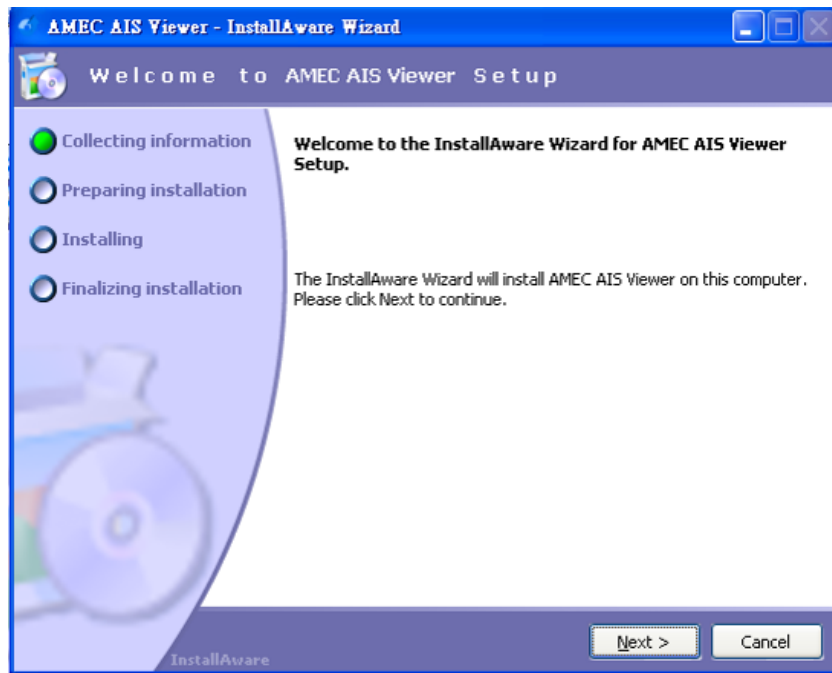


### 3. AMEC AIS Viewer Software Installation

To install AMEC AIS Viewer, please find the AMEC AIS Viewer program in the CD-ROM accompanied with your AMEC product. Use the following guidelines to install the viewer program.

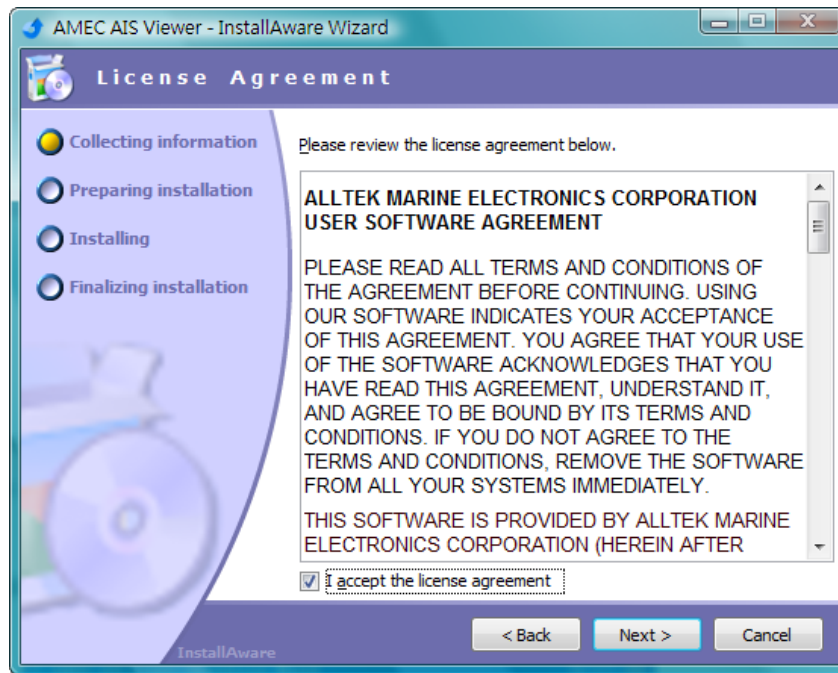
**Step 1.** Double click on the AIS Viewer installer file.  **AMEC AIS Viewer.exe**

**Step 2.** The setup welcome window appears. Click **Next** to continue.

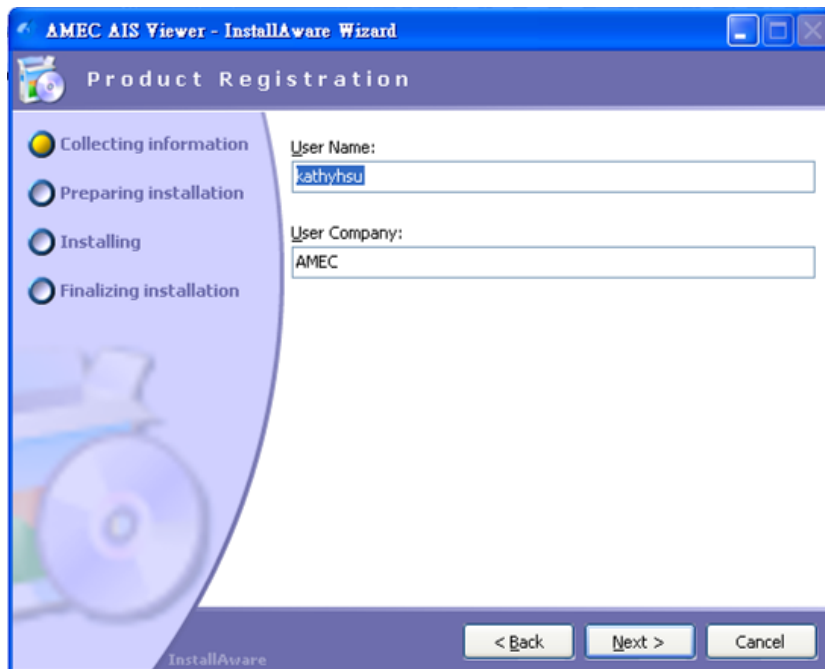




**Step 3.** Please read and agree the license agreement, then click **Next** to proceed.

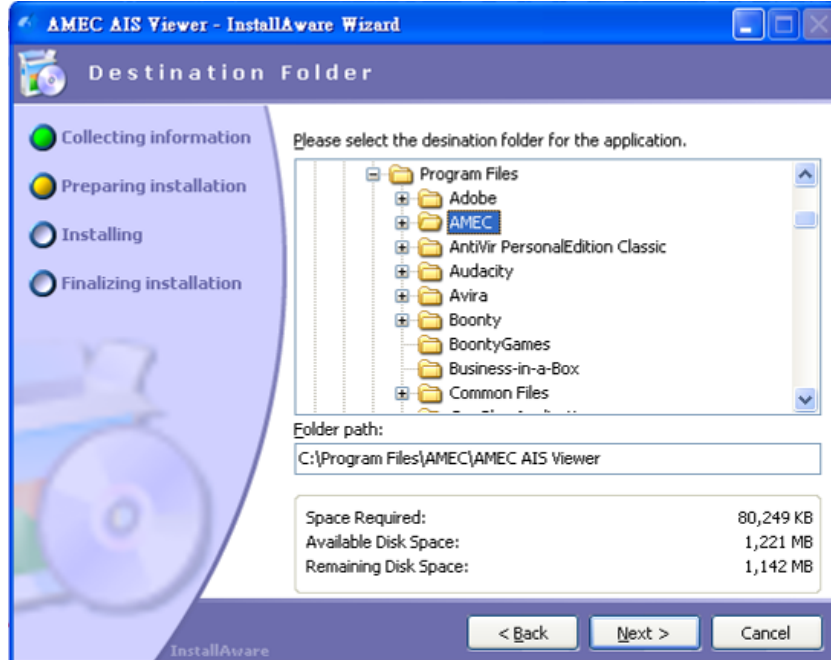


**Step 4.** Fill the required user information and click **Next** to proceed.

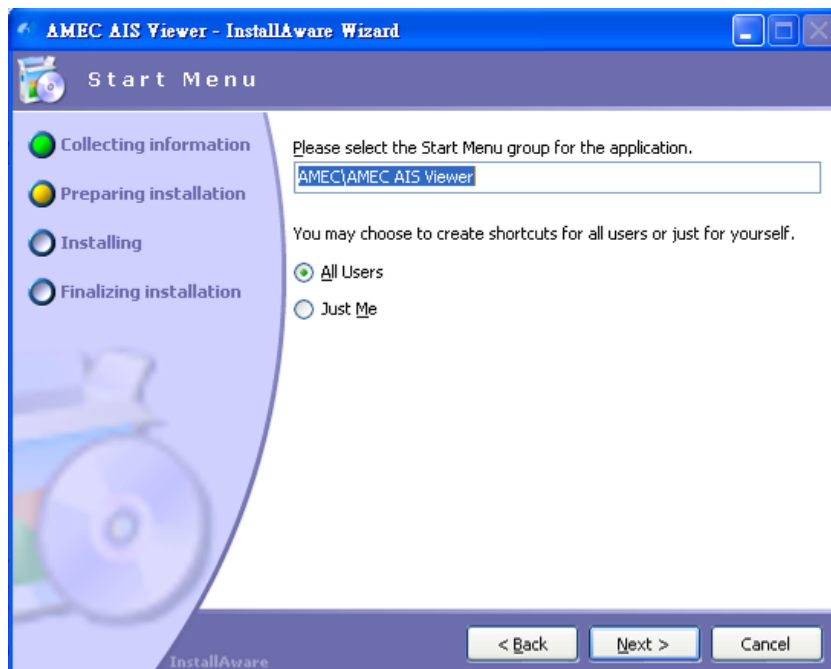




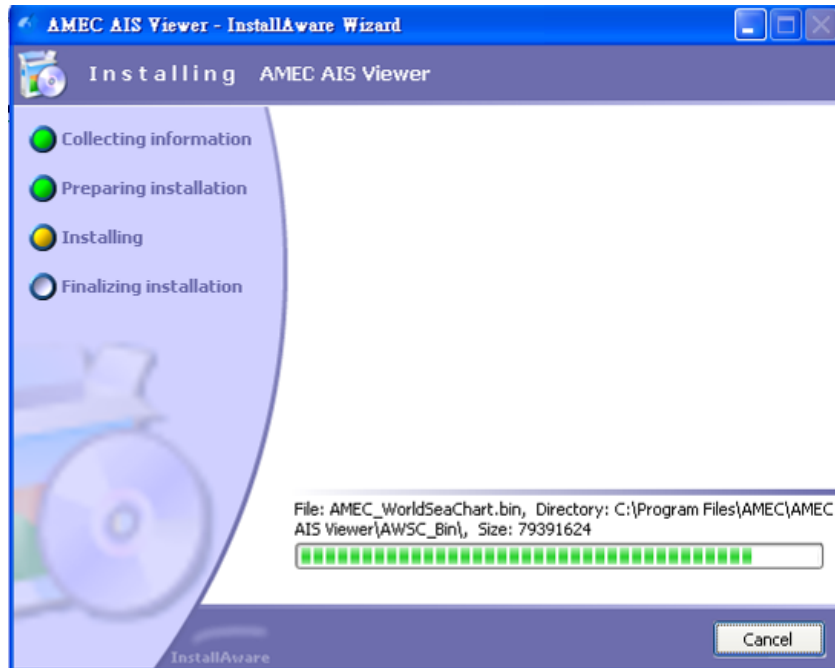
**Step 5.** Choose a folder to install this application, and then click on **Next** to proceed.



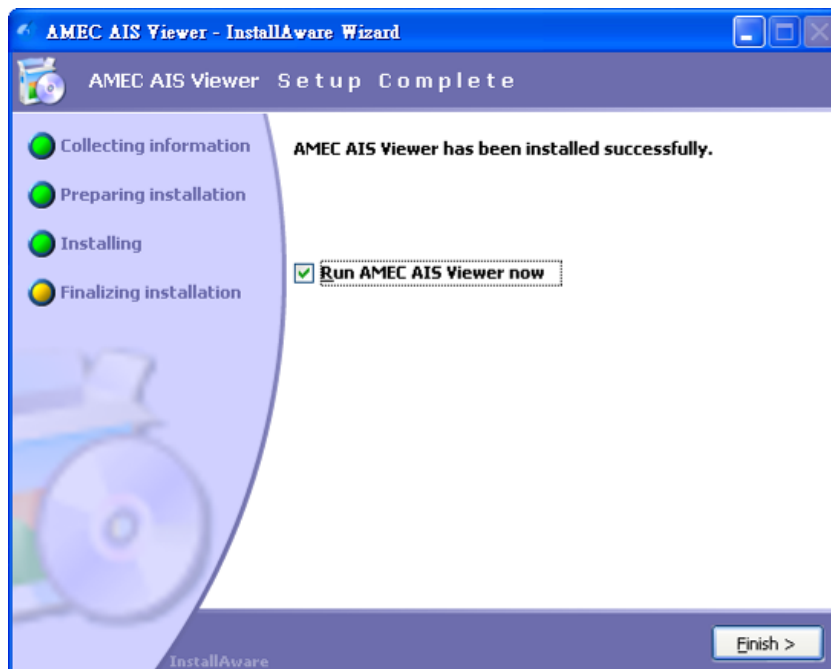
**Step 6.** Select your option for the shortcut preference and click **Next** to proceed with the installation.



**Step 7.** Installation takes couple seconds to complete.



**Step 8.** When the installation completed, you may select to start AIS Viewer after clicking Finish to exit.





## 4. Starting AMEC AIS Viewer

The AIS Viewer relies on the AIS messages received by the AIS device. Therefore it is essential the AIS device having a good VHF reception receiving AIS messages.

When the application started, you are required to configure the settings for serial port and baud rate.

You may use either manual or auto configuration to establish connection to the AIS device.

- **Auto:** the system will identify and show the serial port number and baud rate automatically.\* (See note below)
- **Manual:** select appropriate serial port and baud rate manually. If the serial port is not listed, you may key in the serial port number directly. To determine the correct serial port, please refer to [Appendix How Determine Serial Port](#).

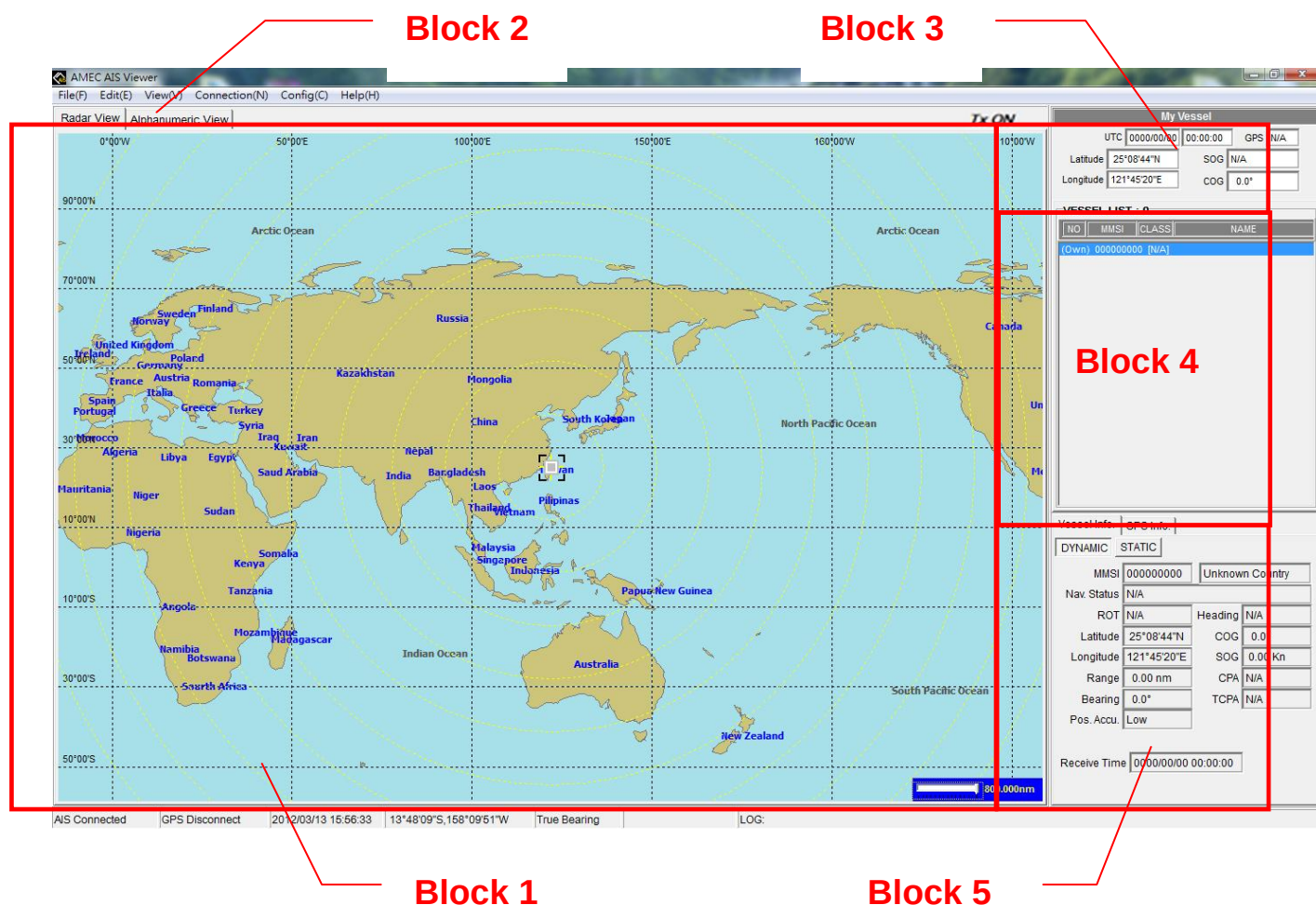


**\*Note:** Some devices may not support auto connection setup.

You may skip the connection setup using the **Close** button and configure later through AIS Viewer's option. See [Section 5.2.4 Connection](#).

## 5. Using AIS Viewer

The user interface of AIS Viewer is divided into 5 function blocks.



### Block 1: Chart

This is the viewing area of the chart.

### Block 2: Main Bar

Main menu items are File, Edit, View, Connection, Config, and Help.

### Block 3: My Vessel's Position Information

Here shows the dynamic information of your vessel.

### Block 4: Ship List

This area lists all vessels from the chart through AIS. The selected ship's information would be shown in Block 5.

### Block 5: Ship details Information

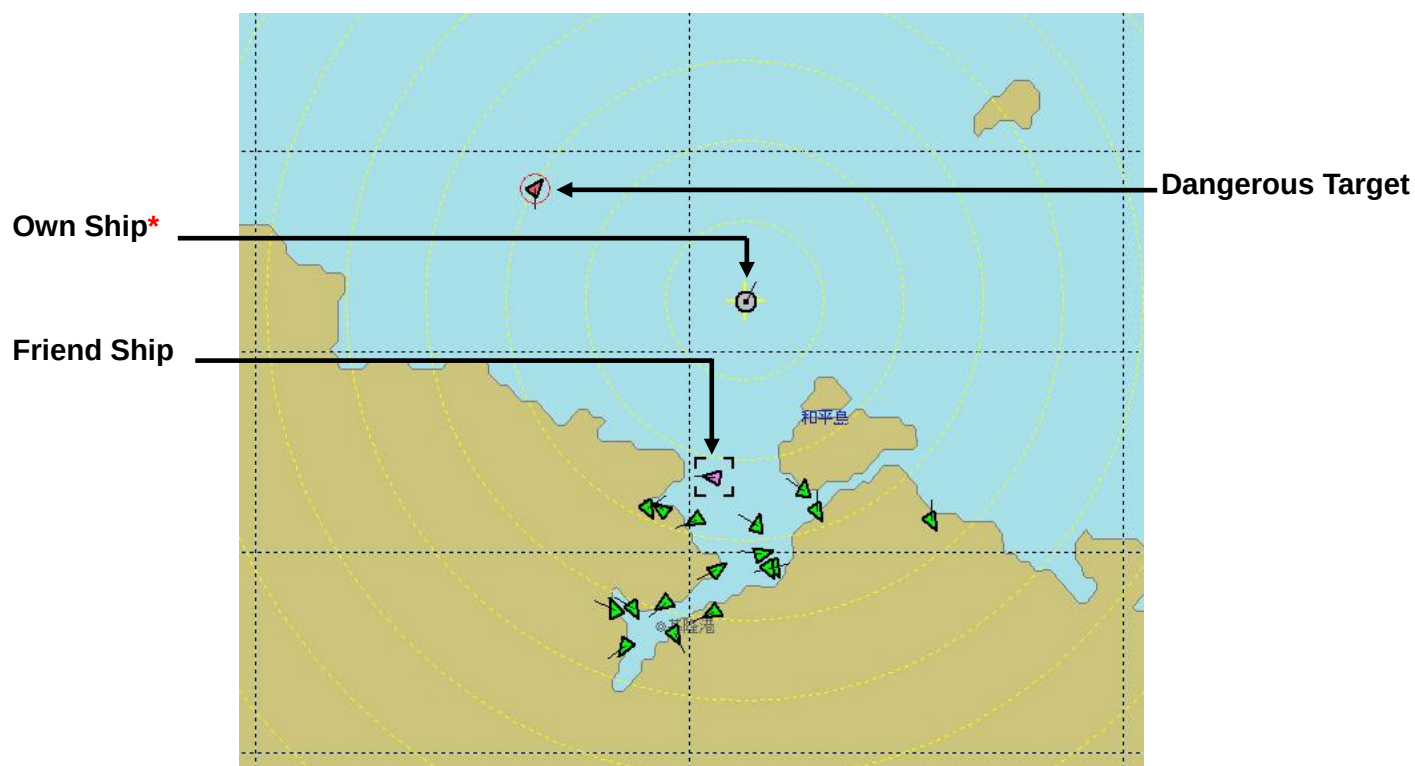
This area shows the ship information of the selected ship in Block 4.

## 5.1. Block 1: Chart

AIS Viewer provides two chart modes: Radar View and Alphanumeric View.

### 5.1.1 Radar View

The AIS targets are displayed on your PC screen in the form as shown below. Under this viewing mode, all targets will be displayed on the Radar display.



The Radar View shown above has the following characteristics: Each AIS ship has the shape of a triangle.

- You can manually set the ship's coordinates or dragging the chart to a desired location.
- A maximum number of 500 AIS targets can be displayed on the viewer.
- The straight line extended from AIS target represents the course of the ship.
- Double click anywhere on the chart to make it the center\*. Please refer to **Section “Center View”**.
- Change viewing scale (lower right corner) if needed. Available scales are 800, 400, 200, 96, 48, 24, 12, 6, 3, 1.5, 0.75, 0.5, 0.25, 0.125 and 0.05 (nm).

AIS target symbol description: Symbol for each AIS target displayed on the radar plotter is as described below.

|                                                                                                           |                                                                                                                                                                                                                   |
|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Own Ship<br>             | <b>GPS Reception: Normal / Color: Grey</b><br>Under normal GPS reception, own ship is located in the center of the radar view. (only with Class B transceiver).                                                   |
| Own Ship<br>             | <b>GPS Reception: No GPS / Color: Grey</b><br>With no GPS reception, own ship needs to be located manually.                                                                                                       |
| AIS Target<br>           | <b>Color: Green</b><br>Ship equipped with AIS system in the surrounding sea will appear on the radar view as an AIS target.                                                                                       |
| Selected Target<br>      | <b>Color: Green / Flashing Black Frame</b><br>Use the arrow keys to select any target on the radar view. After selected, press <ENT> and the detailed information on each target can be viewed.                   |
| Dangerous Target<br>    | <b>Color: Red / Circled Frame</b><br>When distance to a ship is smaller than CPA/TCPA, the target will be circled in RED. Use the arrow keys to select the dangerous target and to view its detailed information. |
| Friend Ship<br>        | <b>Color: Magenta</b><br>If any pre-stored Friend Ship is nearby, the Friend Ship will appear in Magenta on the radar view.                                                                                       |
| Lost Signal Target<br> | <b>Color: Green / Crossed</b><br>If reception of an AIS target is lost over 10 minutes, a “X” will be displayed over it. The target will disappear from the Radar View when its reception is lost for one hour.   |
| AtoN (Real)<br>        | <b>Color: Green / Plus Sign</b><br>The icon will be displayed if any AIS AtoN (Aids to Navigation) Real is in the range of reception.                                                                             |
| AtoN (Virtual)<br>     | <b>Color: Green / Plus Sign and Undercut</b><br>The icon will be displayed if any AIS AtoN (Aids to Navigation) Virtual is in the range of reception.                                                             |
| AtoN(Off position)<br> | <b>Color: Red / Plus Sign</b><br>The icon will be displayed if any AIS AtoN (Aids to Navigation) is in off position status.                                                                                       |

|                     |                                                                                   |                                                                                                         |
|---------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| <b>SAR</b>          |  | <b>Color: Black</b><br><b>The icon will be displayed if any air plane is in the range of reception.</b> |
| <b>SART</b>         |  | <b>Color: Red / Cross</b><br><b>The icon will be displayed if any SART message is sent out.</b>         |
| <b>Base Station</b> |  | <b>Color: Green</b><br><b>The icon will be displayed when any base station is in the range of AIS.</b>  |

**Note:** The straight line extended from the ship triangle symbol represents the course of the ship.

## 5.1.2 Alphanumeric View

Under this mode, all ship details will be displayed alphanumerically. To browse the entire information, please use the scroll bar on the screen to navigate through table.

| NO  | MMSI      | CLASS | RX COUNT | MSG # | NAME        | CALL SIGN | RANGE    | BEARING | SOG     | COG    | HEADING | CPA | TCPA | LAT        | LOn        | ROT          | LENGTH | BEAM | DESTINATION | ETA        | SHIPTYPE                        | CARGO |
|-----|-----------|-------|----------|-------|-------------|-----------|----------|---------|---------|--------|---------|-----|------|------------|------------|--------------|--------|------|-------------|------------|---------------------------------|-------|
| Own | 000000000 | [N/A] | 0        | 0     |             | N/A       | 0.00 nm  | 0.0°    | 0.00Kn  | 0.0°   | N/A     | N/A | N/A  | 22°29'11"N | 70°02'34"E | N/A          | 0m     | 0m   | N/A         | N/A        | N/A                             | N/A   |
| 1   | 419090700 | [A]   | 30       | 1     | MARIGOLD    | AVCF      | 14.51 nm | N/A     | 0.40Kn  | 203.1° | 286.0°  | N/A | N/A  | 22°30'41"N | 69°47'06"E | >5°/30s(137m | 10m    |      | MUMBAI      | 9/26 12:00 | (31)Vessel-Tow(31)Unknown C     |       |
| 2   | 370854000 | [A]   | 21       | 1     | GINGA LEOPA |           | 16.66 nm | N/A     | 0.00Kn  | 73.0°  | 275.0°  | N/A | N/A  | 22°31'09"N | 69°44'49"E | 0.0°         | 0m     | 0m   |             | 0/0 00:00  | (0)Undefined sh (0)N/A; Harmles |       |
| 3   | 477093100 | [A]   | 25       | 1     |             |           | 20.04 nm | N/A     | 6.80Kn  | 28.5°  | 282.0°  | N/A | N/A  | 22°47'52"N | 70°00'45"E | >5°/30s(10m  | 0m     |      |             | 0/0 00:00  | (0)Undefined sh (0)N/A; Harmles |       |
| 4   | 419745000 | [A]   | 31       | 1     |             |           | 15.42 nm | N/A     | 7.10Kn  | 315.0° | 331.0°  | N/A | N/A  | 22°31'41"N | 69°46'29"E | >5°/30s(10m  | 0m     |      |             | 0/0 00:00  | (0)Undefined sh (0)N/A; Harmles |       |
| 5   | 258960000 | [A]   | 2        | 5     | BOW SAGA    |           | 17.00 nm | N/A     | 0.00Kn  | 217.2° | 270.0°  | N/A | N/A  | 22°30'41"N | 69°44'21"E | 0.0°         | 0m     | 0m   |             | 0/0 00:00  | (0)Undefined sh (0)N/A; Harmles |       |
| 6   | 000123123 | [A]   | 22       | 1     | GSFC SIKKA  |           | 11.71 nm | N/A     | 0.00Kn  | 0.0°   | N/A     | N/A | N/A  | 22°26'47"N | 69°49'59"E | N/A          | 0m     | 0m   |             | 0/0 00:00  | (0)Undefined sh (0)N/A; Harmles |       |
| 7   | 370515000 | [A]   | 3        | 3     | ROYAL FLOS  |           | 11.25 nm | N/A     | 0.00Kn  | 72.0°  | 131.0°  | N/A | N/A  | 22°29'43"N | 69°50'30"E | 0.0°         | 0m     | 0m   |             | 0/0 00:00  | (0)Undefined sh (0)N/A; Harmles |       |
| 8   | 371604000 | [A]   | 23       | 1     | STAR EXPRE! |           | 24.12 nm | N/A     | 10.30Kn | 234.0° | 235.0°  | N/A | N/A  | 22°52'16"N | 70°07'33"E | 0.0°         | 0m     | 0m   |             | 0/0 00:00  | (0)Undefined sh (0)N/A; Harmles |       |
| 9   | 419426000 | [A]   | 22       | 1     |             |           | 12.37 nm | N/A     | 0.00Kn  | 0.0°   | N/A     | N/A | N/A  | 22°25'51"N | 69°49'25"E | N/A          | 0m     | 0m   |             | 0/0 00:00  | (0)Undefined sh (0)N/A; Harmles |       |
| 10  | 312583000 | [A]   | 3        | 5     | CORAL       |           | 24.22 nm | N/A     | 0.00Kn  | 17.0°  | 309.0°  | N/A | N/A  | 22°44'21"N | 69°43'02"E | 0.0°         | 0m     | 0m   |             | 0/0 00:00  | (0)Undefined sh (0)N/A; Harmles |       |
| 11  | 419542000 | [A]   | 6        | 1     |             |           | 24.43 nm | N/A     | 0.00Kn  | 344.0° | 308.0°  | N/A | N/A  | 22°44'31"N | 69°42'52"E | 0.0°         | 0m     | 0m   |             | 0/0 00:00  | (0)Undefined sh (0)N/A; Harmles |       |
| 12  | 565174000 | [A]   | 20       | 1     |             |           | 22.24 nm | N/A     | 10.20Kn | 34.7°  | 29.0°   | N/A | N/A  | 22°49'50"N | 70°05'21"E | 0.0°         | 0m     | 0m   |             | 0/0 00:00  | (0)Undefined sh (0)N/A; Harmles |       |
| 13  | 419292000 | [A]   | 9        | 1     | RELTUG SIX  |           | 14.21 nm | N/A     | 0.00Kn  | 0.0°   | N/A     | N/A | N/A  | 22°36'38"N | 69°50'11"E | N/A          | 0m     | 0m   |             | 0/0 00:00  | (0)Undefined sh (0)N/A; Harmles |       |
| 14  | 636014602 | [A]   | 19       | 1     | SOUND FUTU  |           | 24.38 nm | N/A     | 11.70Kn | 56.4°  | N/A     | N/A | N/A  | 22°51'45"N | 70°07'18"E | N/A          | 0m     | 0m   |             | 0/0 00:00  | (0)Undefined sh (0)N/A; Harmles |       |

|                  |                                                                                                                             |
|------------------|-----------------------------------------------------------------------------------------------------------------------------|
| <b>MMSI</b>      | Marine Mobile Service Identity                                                                                              |
| <b>CLASS</b>     | AIS Message class types<br><br>[A] Class A AIS<br><br>[B] Class B AIS<br><br>[N/A] Unknown<br><br>[AtoN] Aids to Navigation |
| <b>RX COUNT</b>  | The numbers of receiving messages                                                                                           |
| <b>MSG #</b>     | The message ID should identify the message type                                                                             |
| <b>NAME</b>      | Ship Name                                                                                                                   |
| <b>CALL SIGN</b> | Ship's Call Sign                                                                                                            |

|                    |                                                                                           |
|--------------------|-------------------------------------------------------------------------------------------|
| <b>RANGE</b>       | The distance between target ships to own ship. The unit of range is “nm” (Nautical Mile). |
| <b>BEARING</b>     | The relative angle between target ship and own ship.                                      |
| <b>SOG</b>         | Speed Over Ground, the unit of SOG is “kn” (knot).                                        |
| <b>COG</b>         | Course Over Ground                                                                        |
| <b>HEADING</b>     | The heading of the target ship.                                                           |
| <b>CPA</b>         | Distance to Closest Point of Approach, the unit of CPA is “nm” (Nautical Miles)           |
| <b>TCPA</b>        | Time to Closest Point of Approach, the unit of TCPA is “min” (Minutes).                   |
| <b>LON</b>         | Longitude of the target ship.                                                             |
| <b>LAT</b>         | Latitude of the target ship.                                                              |
| <b>ROT</b>         | Rate of Turn                                                                              |
| <b>LENGTH</b>      | The length of the target ship, the unit of LENGTH is “m” (meters).                        |
| <b>BEAM</b>        | The beam of the target ship, the unit of BEAM is “m” (meters).                            |
| <b>DESTINATION</b> | The destination of the target ship.                                                       |
| <b>ETA</b>         | Estimated Time of Arrival, (Month/Date/Hour/Minutes)                                      |
| <b>SHIPTYPE</b>    | Ship type of the target ship.                                                             |
| <b>CARGO</b>       | Cargo information.                                                                        |

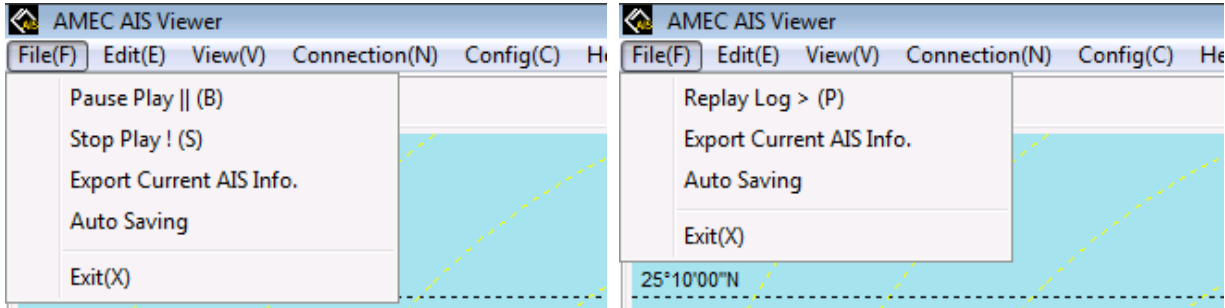
## 5.2. Block 2: Main Bar

Holds **File**, **Edit**, **View**, **Connection**, **Config**, and **Help** menu items.

### 5.2.1 File

The file menu item enables saving or replaying previous saved log files. Note, replaying the log data requires the disconnection of both AIS device and GPS receiver.

Note that the right screenshot is during log playing mode.

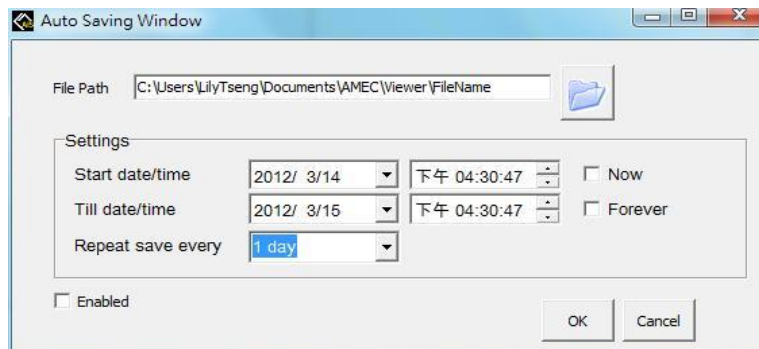


#### 5.2.1.1 Replay Log

Replay a previously saved data

Additional log operations during log playing. You may set preferences for auto log saving.

|                      |                   |
|----------------------|-------------------|
| <b>Pause Play II</b> | Pause log playing |
| <b>Stop Play !</b>   | Stop log playing  |



#### 5.2.1.2 Export Current AIS Info

Export the AIS data to a comma-separated value file format

#### 5.2.1.3 Auto Saving

Enable auto-saving function. User can set file path, time settings in the window (See screenshot below)

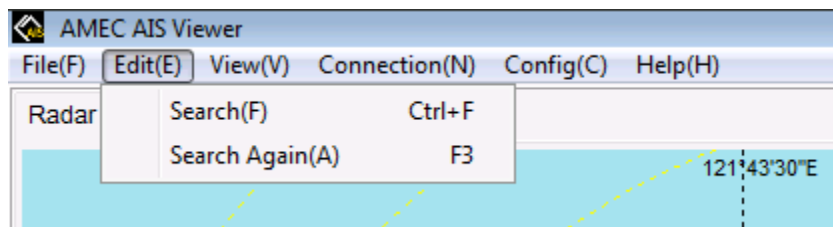
#### 5.2.1.4 Exit

Close the AMEC AIS Viewer program

| NOTICE                                                                            |                                                                                                                                                            |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p><b>REPLAYING LOG</b></p> <p>replaying log data requires disconnection of AIS. To disconnect go to “Connection”→ “Disconnect AIS” to disconnect AIS.</p> |

#### 5.2.2 Edit

This menu item enables searching desired MMSI and vessel name.

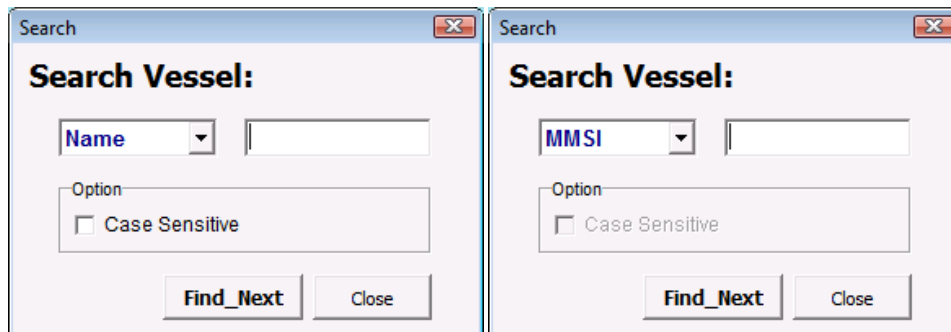


##### 5.2.2.1 Search

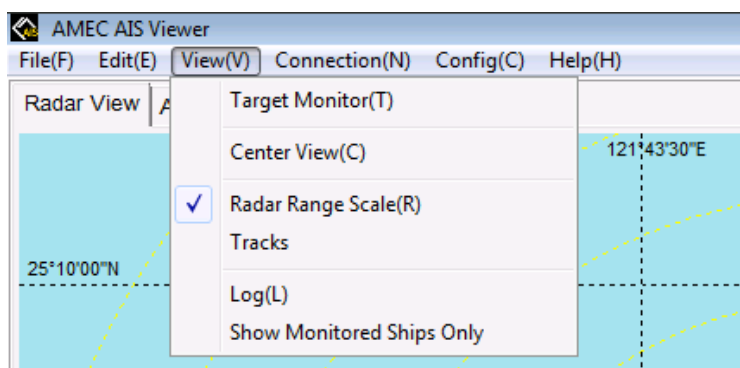
The search window provides vessel MMSI or Name searching capabilities.

##### 5.2.2.2 Search Again

Repeat previous search using previous searched criteria



## 5.2.3 View



### 5.2.3.1 Target Monitor

Monitor vessel information on the selected target.

### 5.2.3.2 Center View

When connected to a Class B transceiver and GPS went off, Center View can center the chart based on your vessel's last known coordinates or with an appointed coordinate.

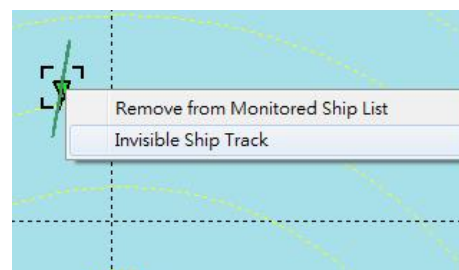
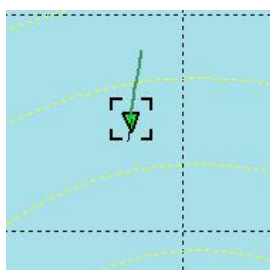
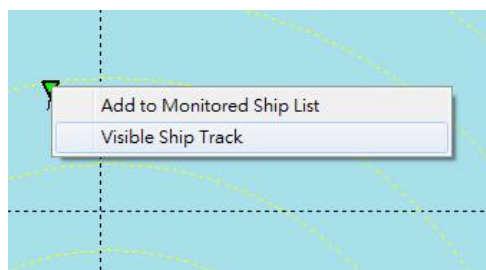
With AIS receivers, users are always required to enter a coordinate to center the chart.

### 5.2.3.3 Radar Range Scale

Show the radar range scale on the radar view.

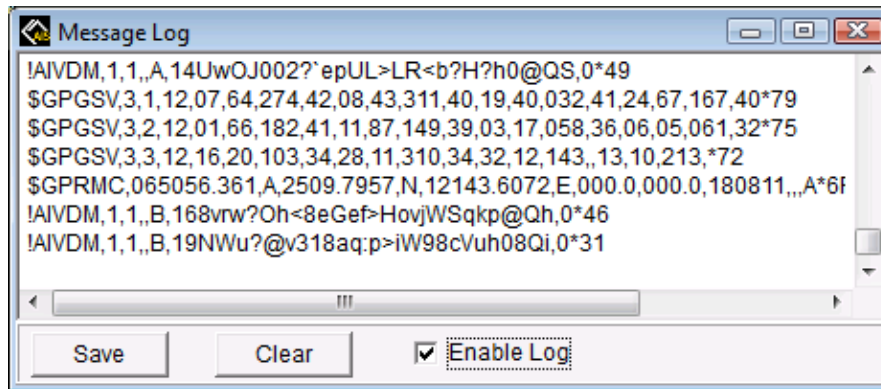
### 5.2.3.4 Tracks

Enables viewing vessel tracks. Requires the enabling of an individual vessel track by right clicking the target and set the track visible/invisible.



### 5.2.3.5 Log

Enables the log window. To start logging, enable **Enable Log**. You may save the log session or clear the log window.

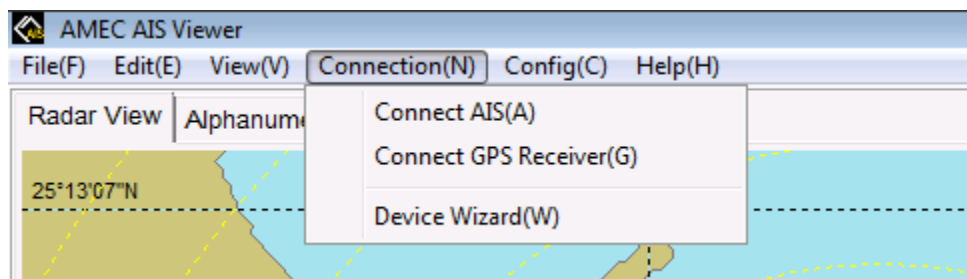


### 5.2.3.6 Show Monitored Ships only

Show monitored ships only. Please refer to **4.2.5 Config** for more information about ship monitoring.

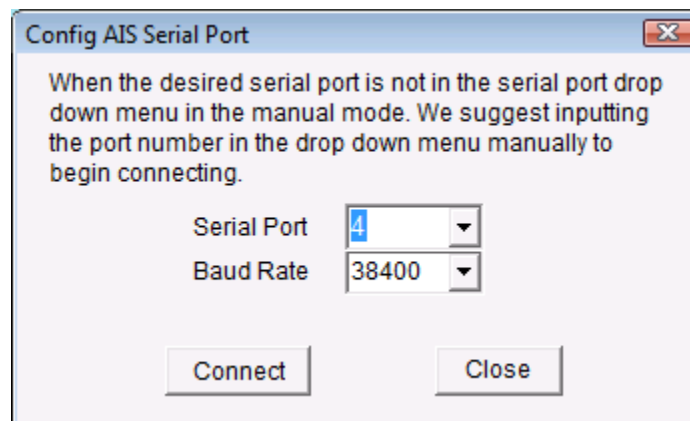
## 5.2.4 Connection

This menu item enables and disables the connection for AIS device and GPS receiver.



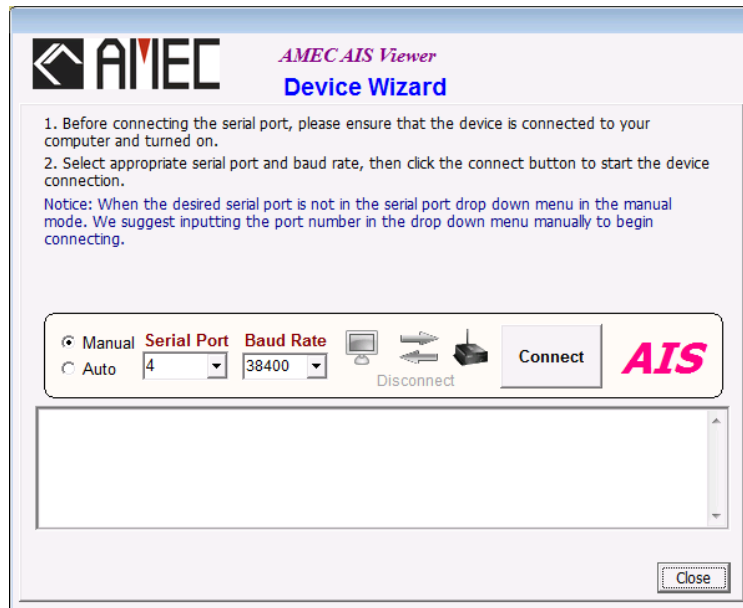
### 5.2.4.1 Connect AIS

Connect AIS with specific "Serial Port" and "Baud Rate".



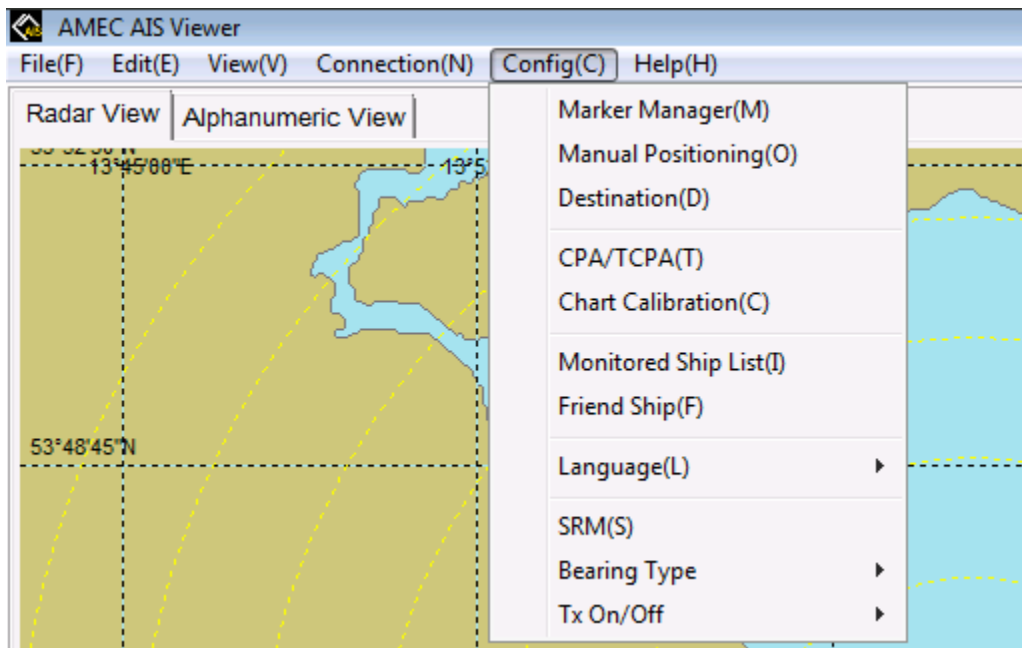
### 5.2.4.2 Device Wizard

Select appropriate serial port and baud rate for device connection



### 5.2.5 Config

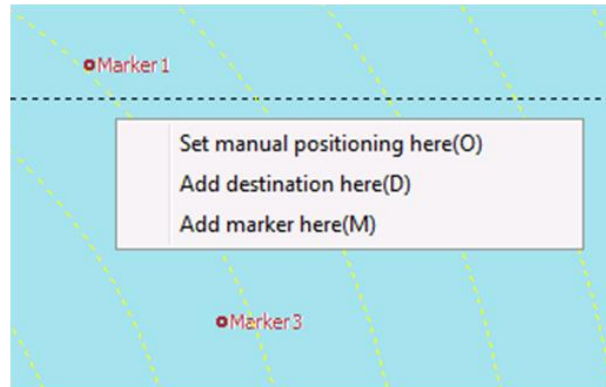
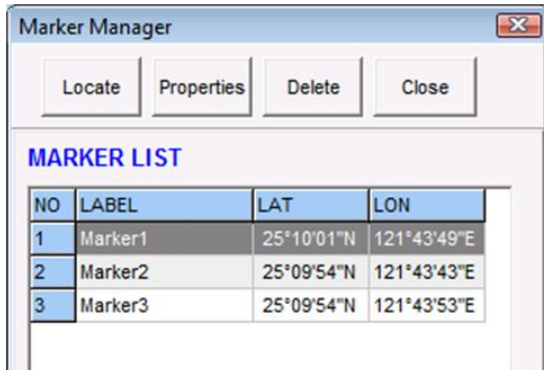
The configuration menu item provides preference settings.



### 5.2.5.1 Marker Manager

Manages markers in the Marker Manager window.

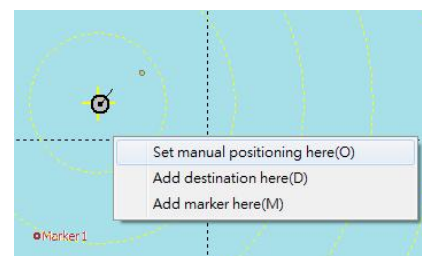
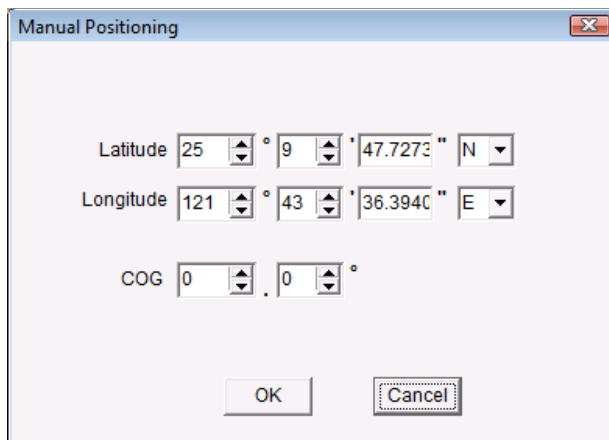
Note markers can be simply created through context menu (right click on anywhere on chart) and click “**Add marker here**”



|                   |                                                                  |
|-------------------|------------------------------------------------------------------|
| <b>Locate</b>     | The selected marker will be centered on the display              |
| <b>Properties</b> | To edit the selected marker's name and positions in this window. |
| <b>Delete</b>     | To delete the selected marker in this window.                    |
| <b>Close</b>      | To close the Marker Manager.                                     |

### 5.2.5.2 Manual Positioning

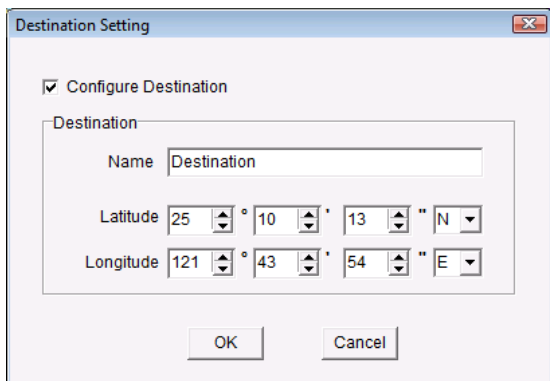
If connected with an AIS receiver or an AIS Class B transceiver with GPS failed, use Manual Positioning to enter your vessel coordinates and set it as the chart's center. You may also right click on the chart and access the context menu to set center of the chart.



### 5.2.5.3 Destination

Set the destination of your voyage. Enabling **Configure Destination** checkbox, coordinates of the destination can be entered. Hit OK to save the location and the place will be marked with a red pin.

NOTE: This feature is only applicable when connecting to an AIS Class B transceiver.



**Destination Setting**

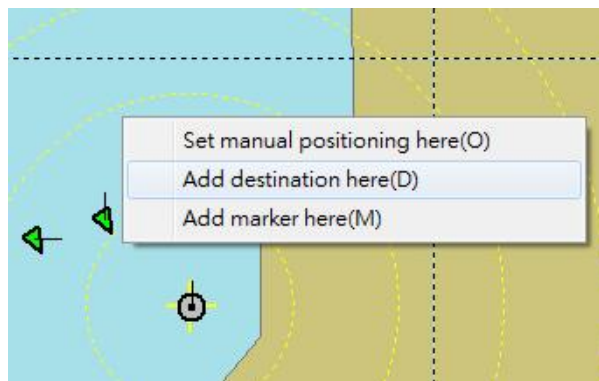
☒ Configure Destination

Destination

Name:

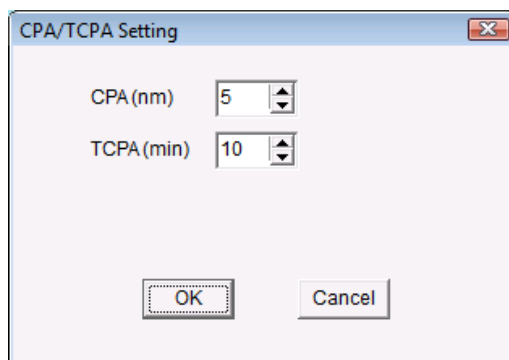
Latitude:  °  '  " N

Longitude:  °  '  " E



### 5.2.5.4 CPA/TCPA (Distance to Closest Point of Approach)

This feature enables to set the desired values for CPA and TCPA collision avoidance. When a ship is entering the alerted area, it would be marked in red color on screen. (Refer to Section “Radar View”).



**CPA/TCPA Setting**

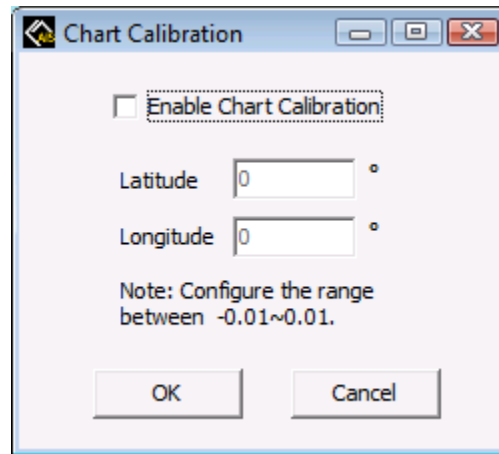
CPA (nm):

TCPA (min):

NOTE: This feature is only applicable when connecting to an AIS Class B transceiver.

### 5.2.5.5 Chart Calibration

User can fine tune the calibration of the chart. To calibrate, enable the **Enable Chart Calibration** button with adjustments.

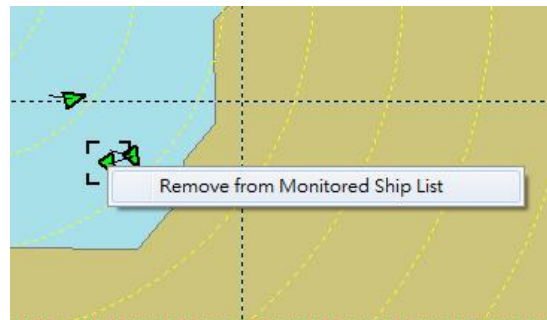
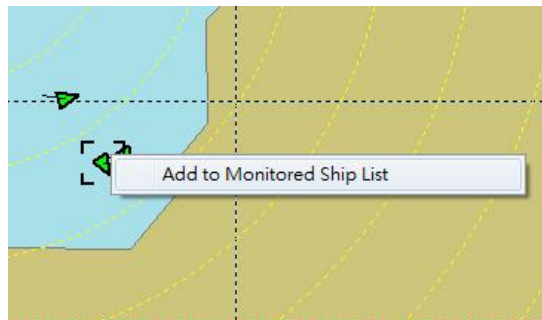
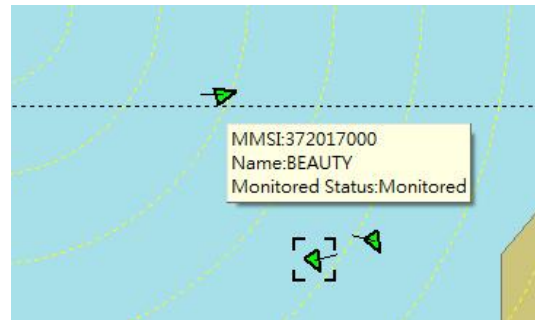


### 5.2.5.6 Monitored Ship List

Allows user to monitor selected ships.

**Note:** user can view vessel information through cursor tooltip.

| Monitored Ship List |           |                 |
|---------------------|-----------|-----------------|
| DELETE              |           |                 |
| NO                  | MMSI      | SHIP NAME       |
| 1                   | 1193046   | NAUTICAST       |
| 2                   | 416003449 | CHUNG YU NO. 10 |
| 3                   | 412072700 | TAI FU NO.8     |
| 4                   | 356799000 | FU TAI          |



## HINT

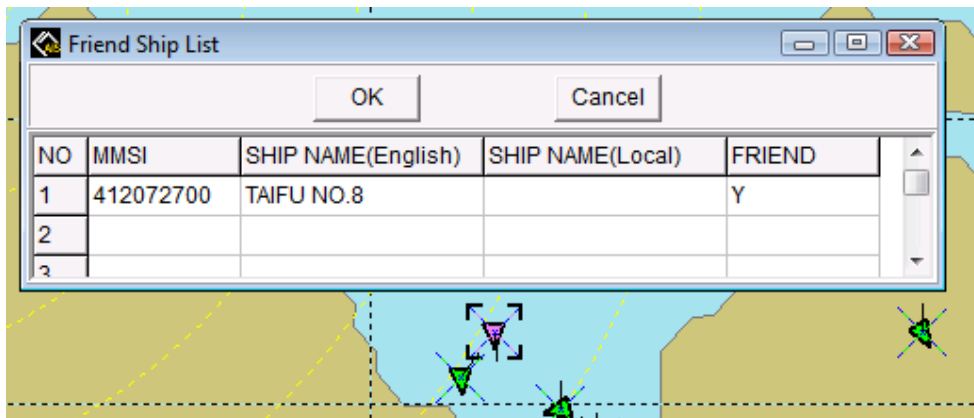


### SELECT A VESSEL TO MONITOR

Right click on a vessel and select **Add to Monitored Ship list**. To remove a vessel from monitoring, right click and select **Remove from Monitored Ship List**.

### 5.2.5.7 Friend Ship

A ship can be set as a friend ship. To do it simply entering the MMSI number and a “Y”\* at “Friend” column; the icon of the selected targets will turn to pink in the Radar display (Refer to **Section “Radar View”**). Click on “OK” to complete the setting.



### 5.2.5.8 Language

Change AMEC AIS Viewer to another language. Currently available languages are English and Traditional Chinese.

### 5.2.5.9 SRM

This function is only available when connecting to an AIS Class B transponder. User can select type of Safety Related Message or key in the message manually.

Click  button to send the message out\*. The In-box and Out-box list message sent and received.

#### **\*NOTE:**

- Upon clicked, the device sends out the SRM message once in a minute as regulated. If you want to send out the next message, you have to wait for one minute of elapse time.
- This feature is only applicable when connecting to an AIS Class B transceiver.

**Send Safety Related Message (SRM)**

Please key in the emergency message or select one of the pre-defined message below ...

SOS...

SOS...  
MAYDAY MAYDAY  
ON FIRE  
EXPLOSION  
FLOODING  
COLLISION  
GROUNDING  
LISTING  
CAPSIZING  
SINKING  
ADRIFTING  
ROBBERY ATTACK  
ENGINE TROUBLE  
FUEL SHORTAGE  
MAN OVERBOARD

<<

**SRM**  
Send Message

**X**  
Exit

In-Box | Out-Box

| No. | Date | Time | MMSI | Message |
|-----|------|------|------|---------|
|     |      |      |      |         |

#### 5.2.5.10 Bearing Type

User may set either True Bearing or Relative Bearing.

|                         |                                                      |
|-------------------------|------------------------------------------------------|
| <b>True Bearing</b>     | Use north direction to calculate all vessel bearings |
| <b>Relative Bearing</b> | All ship bearings are based on your vessel's COG     |

#### NOTE:

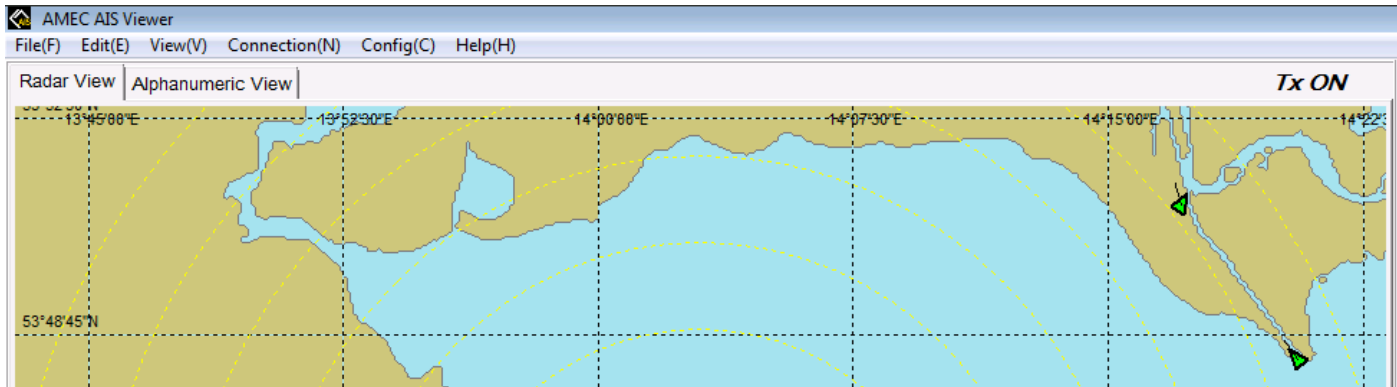
- The bearing status will be shown on the bottom of the Viewer window. To check the bearing value, refer to **Vessel Information**.
- Only true bearing is applicable when connected with AIS receiver

### 5.2.5.11 Tx On/Off

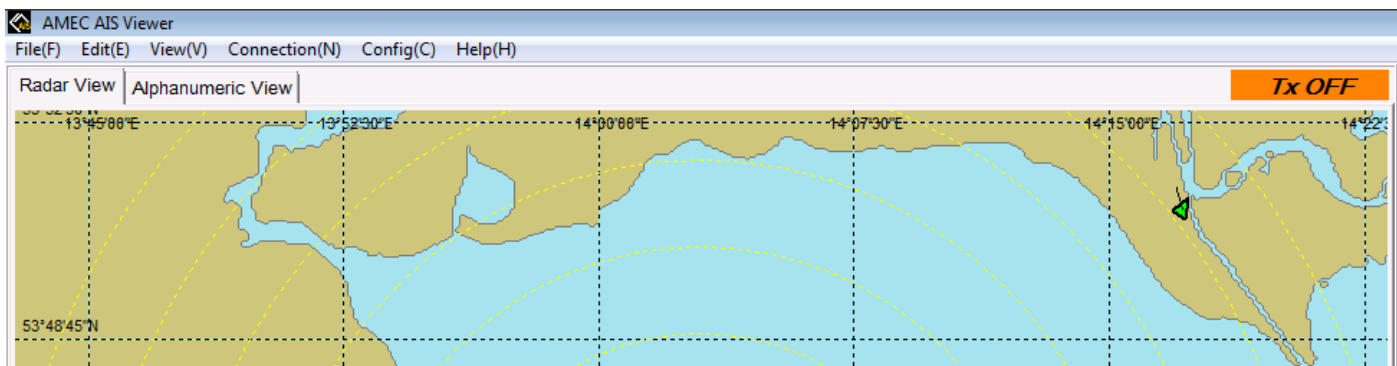
This feature enables user to turn AIS transmission On/Off. The device will enter into Silent Mode. To restore the AIS transmission, simply select the Tx On.

NOTE: This feature is only applicable when connecting to an AIS Class B transceiver.

#### Tx On



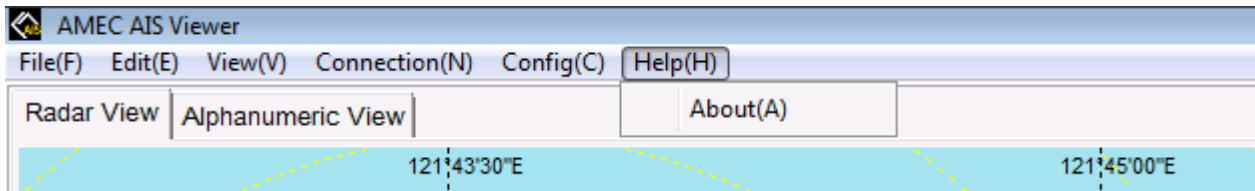
#### Tx Off





## 5.2.6 Help

The help window is shown below.



### 5.2.6.1 About

Information about AMEC AIS Viewer



## 5.3. Block 3: My Vessel's Position Information

User's own ship information is displayed in this block.

Note: some information might not be available when connected with an AIS receiver.



|                  |                                                                                                                         |
|------------------|-------------------------------------------------------------------------------------------------------------------------|
| <b>UTC</b>       | Coordinated Universal Time                                                                                              |
| <b>GPS</b>       | GPS related information. Usually it would indicate 2D or 3D to show the accuracy of the GPS data. (3D is more accurate) |
| <b>Latitude</b>  | Current Latitude of own ship.                                                                                           |
| <b>Longitude</b> | Current Longitude of own ship.                                                                                          |
| <b>SOG</b>       | Speed Over Ground                                                                                                       |
| <b>COG</b>       | Course Over Ground                                                                                                      |

## 5.4. Block 4: Ship Details Information

Received vessels and AtoNs are listed here by their MMSI, class type, and names.

| VESSEL LIST : 18 |           |       |             |
|------------------|-----------|-------|-------------|
| NO               | MMSI      | CLASS | NAME        |
| (Own)            | 416003878 | [B]   |             |
| (001)            | 416000197 | [A]   |             |
| (002)            | 372627000 | [A]   |             |
| (003)            | 416317000 | [A]   |             |
| (004)            | 416101000 | [A]   |             |
| (005)            | 416017700 | [A]   |             |
| (006)            | 209370000 | [A]   | OOCL MANILA |
| (007)            | 352457000 | [A]   |             |
| (008)            | 371655000 | [A]   |             |
| (009)            | 416000032 | [A]   |             |
| (010)            | 100000000 | [A]   |             |
| (011)            | 001193046 | [A]   |             |
| (012)            | 416000057 | [A]   |             |
| (013)            | 416003449 | [A]   |             |
| (014)            | 416888888 | [A]   |             |
| (015)            | 477541900 | [A]   |             |
| (016)            | 372017000 | [A]   |             |
| (017)            | 416003448 | [A]   |             |
| (018)            | 416925000 | [A]   |             |

|              |                                                                                                                                                                  |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>No.</b>   | Order number of the received targets.                                                                                                                            |
| <b>MMSI</b>  | Maritime Mobile Service Identity of the target.                                                                                                                  |
| <b>Class</b> | <p>AIS class types</p> <p><b>[A]</b>     Class A AIS</p> <p><b>[B]</b>     Class B AIS</p> <p><b>[N/A]</b>   Unknown</p> <p><b>[AtoN]</b> Aids to Navigation</p> |
| <b>Name</b>  | Name of the target ship.                                                                                                                                         |

## 6. Block 5: Ship Details Information

Information of the selected vessel or AtoN in Block 4 is shown here. Information includes dynamic and static vessel information, AtoN information, and GPS satellite information.

### 6.1. Vessel Information

#### 6.1.1 Static Information

| Vessel Info. |                        | GPS Info.            |         |
|--------------|------------------------|----------------------|---------|
| DYNAMIC      |                        | STATIC               |         |
| MMSI         | 209370000              | Cyprus (Republic of) |         |
| Nav. Status  | Under way using engine |                      |         |
| ROT          | 0.0°                   | Heading              | 240.0°  |
| Latitude     | 25°08'24"N             | COG                  | 245.8°  |
| Longitude    | 121°45'08"E            | SOG                  | 0.10 Kn |
| Range        | 8.19 nm                | CPA                  | Pass    |
| Bearing      | 208.9°                 | TCPA                 | Pass    |
| Pos. Accu.   | Low                    |                      |         |
| Receive Time | 2012/03/13 13:33:44    |                      |         |

|                     |                                                                |
|---------------------|----------------------------------------------------------------|
| <b>IMO</b>          | International Marine Organization Number and its country code. |
| <b>Call Sign</b>    | The call sign of the target ship.                              |
| <b>Name</b>         | The name of the target ship.                                   |
| <b>Ship Type</b>    | The type of the target ship.                                   |
| <b>Cargo</b>        | Cargo information of the selected target ship.                 |
| <b>Destination</b>  | Destination of the selected target ship.                       |
| <b>ETA</b>          | Estimate Time of Arrival                                       |
| <b>EPFS Type</b>    | Type of Electronic Position Fixing device                      |
| <b>Draught</b>      | The draught of the target ship.                                |
| <b>Dimension</b>    | The dimension of the target ship.                              |
| <b>Length</b>       | The length of the target ship.                                 |
| <b>Beam</b>         | The width of the target ship.                                  |
| <b>Receive Time</b> | The latest received time of the target ship.                   |

## 6.1.2 Dynamic Information

| Vessel Info. |                        | GPS Info.            |         |
|--------------|------------------------|----------------------|---------|
| DYNAMIC      |                        | STATIC               |         |
| MMSI         | 209370000              | Cyprus (Republic of) |         |
| Nav. Status  | Under way using engine |                      |         |
| ROT          | 0.0°                   | Heading              | 240.0°  |
| Latitude     | 25°08'24"N             | COG                  | 245.8°  |
| Longitude    | 121°45'08"E            | SOG                  | 0.10 Kn |
| Range        | 8.19 nm                | CPA                  | Pass    |
| Bearing      | 208.9°                 | TCPA                 | Pass    |
| Pos. Accu.   | Low                    |                      |         |
| Receive Time |                        | 2012/03/13 13:33:44  |         |

|                      |                                                                                          |
|----------------------|------------------------------------------------------------------------------------------|
| <b>MMSI</b>          | Maritime Mobile Service Identity of the target ship and its country code.                |
| <b>Nav. Status</b>   | Navigational status of the target ship.                                                  |
| <b>ROT</b>           | Rate of Turn                                                                             |
| <b>Heading</b>       | The direction of the target ship's stem.                                                 |
| <b>Latitude</b>      | Current latitude of target ship.                                                         |
| <b>Longitude</b>     | Current longitude of target ship.                                                        |
| <b>COG</b>           | Course Over Ground                                                                       |
| <b>SOG</b>           | Speed Over Ground                                                                        |
| <b>Range</b>         | Range between the selected target and own ship.                                          |
| <b>Bearing</b>       | The related position between own ship and target ship. The unit of bearing is degree(°). |
| <b>CPA</b>           | Distance of Closest Point of Approach between own ship and target ship.                  |
| <b>TCPA</b>          | Time to Closest Point of Approach between own ship and target ship.                      |
| <b>Pos.Accu</b>      | Position Accuracy; related to the GPS device used.                                       |
| <b>Received Time</b> | The latest received time of the target ship.                                             |

## 6.2. AtoN Information

| Vessel Info. | AtoN Info.               | GPS Info.           |
|--------------|--------------------------|---------------------|
| MMSI         | 111111111                | Real                |
| Name         |                          |                     |
| Type         | Not Specified            |                     |
| Status       | Good health, On position |                     |
| Dimension    | A:0m,B:0m,C:0m,D:0m      |                     |
| EPFS Type    | Undefined                | Light No Light      |
| Latitude     | 25°04'38"N               | RACON Not installed |
| Longitude    | 121°34'21"E              | Pos. Accu. Low      |

|                  |                                                    |
|------------------|----------------------------------------------------|
| <b>MMSI</b>      | Maritime Mobile Service Identity of the AIS AtoN   |
| <b>Name</b>      | Name for the AIS AtoN                              |
| <b>Type</b>      | Type of AIS AtoN                                   |
| <b>Status</b>    | Status of the AIS AtoN                             |
| <b>Dimension</b> | Dimension of the AIS AtoN                          |
| <b>EPFS Type</b> | Type of Electronic Position Fixing device          |
| <b>Light</b>     | Light of the lantern                               |
| <b>Latitude</b>  | Current latitude of the AIS AtoN                   |
| <b>Longitude</b> | Current longitude of the AIS AtoN                  |
| <b>RACON</b>     | Radar Beacon                                       |
| <b>Pos. Acu.</b> | Position Accuracy; related to the GPS device used. |

## Appendix How Determine Serial Port

If you PC/laptop does not have available serial port, you may use a RS232-to-USB adapter. To find out the proper serial port for connection use the following instructions.

### ■ Windows 7 or VISTA version:

Click on “Start” → Select “Control Panel” → Select “Device Manager” → Click Port (COM&LPT)

### ■ Windows XP version:

Click on “Start” → Select “My Computer” → Click “Control Panel” → Select “System” → Choose “Hardware” → Select “Device Manager” → Click Port (COM&LPT)

In the example screenshot below, the serial port number is 30.

